REMARKS

1. Figs. 5 and 6 and the last paragraph on page 5 describing them have been deleted.

2. The last paragraph on page 3 has been amended to emphasize that the resilient controlling means may comprise a metal spring or other resilient elastomeric material.

3. Previous Claims 1 & 2 are rejected under 35 U.S.C 102(b) as anticipated by Tarta (5499619). Tarta (5499619) uses a cylindrical body into which a cartridge is inserted and becomes an integral part of the cylindrical body.

4. Nitenson (3417719) uses a threaded cartridge to which a threaded nozzle is attached at the rear portion of the cartridge, and may be retrieved and removed for reuse on another or different size cartridge after firing if used for target practice. Nitenson uses "heads" of different design directly attached to the front end of the cartridge, without an outer body requirement as in Tarta, to which an arrow-head is attached at its front end dependent on successful activation of the detonation pin as it impacts a cartridge located at the front, or top portion of his design.

5. Tarta (5499619) embodies the prior art structure of the Nitenson(3417719) gun design, even though Tarta(5499619) uses a rotary type magazine. The major thrust of Tarta is that he uses a cartridge to drive a dart attached to the outer cylindrical body, which releases gas from a separate cartridge contained in the front portion of the outer cylindrical body, through to the arrow head via a detonation pin.

6. The fins stated in Nitenson (3417719) were not retractable as in the present application.

7. Nor does the Nitenson(3417719 Patent teach that the fins would extend beyond the diameter of the cartridge, after leaving the firing device. -4-

8. Thus the present application should be allowed because it does not depend on the cartridge being carried inside a cylindrical body, notwithstanding that the fins are part of the cylindrical outer tube body.

9. Prior research for Nitenson (3417719) of underwater dart design revealed that no dart less than 7" in length was able to go in a straight line after firing under water. The foregoing is mentioned because the method of firing using a rotary (firing) chamber (which has been state of the art since the 6-shooter came on the market.) would have to be at least that long to accommodate the Tarta (5499619) dart, shown in Fig 3&4.

10. Nitenson (3417719) fabricated a prototype, built to fire the projectile stated in Nitenson (3417719) which has since been revised for use with the present Nitenson/Cumings application.

11. Claims 1-6,8-15,17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitenson(3471719) in view of Jasse(3098446).

12. The Nitenson/Cumings application, utilizes a retractable fin arrangement that is different from others. It has only two moving parts. Due to inherent design of the fin, extension is limited to a given angle and a result of the spring action at the rear of the cantilevered fin design.

13. Jasse (3098446) uses a thrust arrangement generated by expelling gas from a "self propelling powder block" (not shown on the drawing) activating push rods which push the thrust rods into contact with the fins, pivot them, and they lock in place. The operation of Jasse (3098446) is fully dependent upon a gas discharge caused as the result of a powder charge. The only thing it has in common with the Nitenson/Cumings application is fins.

14. The Jasse (3098446) fin design extends beyond the diameter of the missile, as it fits within the missile tube before firing. Since the fin design is not flush with the diameter of the missile, it would not initially leave the -5-

tube in concentric flight. Thus Jasse (3098446) is not applicable to Nitenson/Cumings, which requires concentric flight, as the cartridge/projectile leaves the firing tube.

15. Claims 1-5,7,11-14,16, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitenson (3417719) in view of Eskergian 2405415. As applicable to Nitenson/Cumings application, the mechanical challenges of the Eskergian(24054115) structure to manufacture, if applied to the Nitenson/Cumings structure is impractical or unworkable inasmuch as the missile has to be extremely large (re: see hole#19) which Nitenson/Cumings design cannot accommodate. Therefore, Eskergian(2405415) is not applicable to Nitenson/Cumings structure.

16. Furthermore Eskergian(2405415) has fins attached to a projectile used as a missile that extend to a vertical position on the projectile via a pin located at its rear, and held there as a result of the fin design. They are forced into that position as a result of a firing charge located in the projectile, going into and through a venturi designed chamber, which is part of the projectile. The venturi design allows the exit gas from the charge to exit through the venturi chamber in a smooth flow. At the same time the fins are activated. The fins are supposed to stabilize flight.

17. Nitenson(3417719) uses an expansion chamber at the nozzle entrance, which can be varied as a result of machining the exit of the nozzle chamber.

18. The difference between the Nitenson/Cumings application and prior art, is, that the nozzle design of the Nitenson/Cumings application allows attached retractable fins to extend beyond the diameter of the nozzle and cartridge/projectile AFTER the projectile leaves the firing tube.

19. And, the Nitenson/Cumings nozzle arrangement can use a single shot, magazine load, or rotary load action, as a means of firing the cartridges.-6-

The Nitenson/Cumings application retractable nozzle design, allows the projectile to be used in water, in water to air, from air to water.

20. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitenson (3417719) in view of Dryer (6695252). Included in the Drawings are Fig's 9 and 12, which show and describe the use of springs. A close examination of the drawings and their accompanying descriptions would make it difficult to include the fins as described, to operate as described. Dryer (6695252) does not include the use of springs specifically as the prime means of activation.

21. Nitenson (3417719) does infer the use of a fins, however, the inference did not mean their use as specified in Nitenson/Cumings application. Specifically the fins as might be utilized in Nitenson (3417719) would not include the movable/retractable fins on a nozzle, that are stored in a retracted position in a firing tube, that would extend themselves automatically beyond the diameter of the cartridge to which the nozzle is attached, as the cartridge/projectile leaves the firing tube.

22. The prior art did not, and does not ancticipate a retracted fin design added to the nozzle, where there are only two moving parts -i.e., the cantilevered controlled fins are located within slots, which include a means to support a spring within the slot of each fin, formed or machined into the nozzle, and said springs extend automatically after leaving the firing tube. Inherent in the fin design is the means to control the angle of extension beyond the diameter of the cartridge/projectile after leaving the firing tube.

23. Therefore allowance of the Application is requested. -7-

Respectfully submitted,

HENRY W. CUMMINGS
3313 W. ADAMS ST. ST. CHARLES MO. 63301
636-949-9408 PHONE & FAX
ATTORNEY FOR APPLICANT

It is certified that this Amendment Responsive to the Office Action mailed May 7, 2004 has been faxed this 24th day of July, 2004 to Exr. Barefoot in Art Unit 3644 at 1-703-305-7687

Henry W. Cummings